Surface Mount

Bandpass Filter

CBP-1555C+

50Ω   1525 to 1585 MHz

Generic photo used for illustration purposes only
CASE STYLE: MP1766

The Big Deal

- Narrow bandwidth
- Excellent Rejection
- High power handling
- Miniature shielded package

Product Overview

CBP-1555C+ is a ceramic-coaxial-resonator based bandpass filter in a shielded package fabricated using SMT technology. This filter offers outstanding close in rejection, low insertion loss and high power handling for use in aeronautical and satellite applications

Key Features

Feature	Advantages
High Selectivity	The CBP-1555C+ filter incorporates High-Q ceramic resonators that enables sharp rejection near passband.
Low Passband VSWR	This filter maintains typical VSWR over passband frequency range making this filter easier to integrate into receiver and transmitter RF chains with less concerns for in band frequency ripple.
Rugged construction	The CBP-1555C+ has been qualified over wide range of thermal, mechanical and environmental conditions including withstanding the stress of extensive solder reflow cycles.

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Features
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Applications
- Aviation / Aeronautical
- Mobile satellite
- Differential GPS
- Maritime

Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	—	1555	—	MHz
	Insertion Loss	F1-F2	1525-1585	—	1.10	2.50	dB
	VSWR	F1-F2	1525-1585	—	1.43	2.32	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-1415	20	29	—	dB
	VSWR	DC-F3	DC-1415	—	20	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	1700-3600	20	27	—	dB
	VSWR	F4-F5	1700-3600	—	20	—	:1

Maximum Ratings	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	10W

Permanent damage may occur if any of these limits are exceeded.

Functional Schematic

RF IN   RF OUT
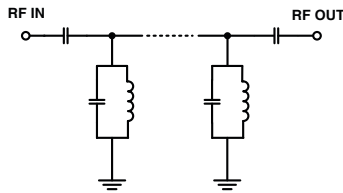
Typical Frequency Response

FREQUENCY (MHz)

DC   F3   F1   F2   F4   F5
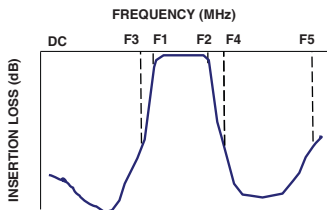
INSERTION LOSS (dB)

Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	99.52	289.53	1525	6.79
550	90.84	347.44	1528	6.68
1150	69.10	108.58	1530	6.62
1415	29.55	36.97	1532	6.56
1437	20.92	26.33	1534	6.52
1456	12.06	13.29	1536	6.47
1468	6.18	5.65	1538	6.43
1475	3.48	3.03	1540	6.40
1525	0.98	1.19	1542	6.38
1555	0.93	1.17	1544	6.36
1585	0.96	1.03	1550	6.34
1600	1.33	1.46	1553	6.36
1615	3.57	3.73	1555	6.37
1625	6.55	7.73	1558	6.40
1640	11.70	18.90	1560	6.42
1670	20.64	46.96	1565	6.48
1700	27.54	66.82	1570	6.58
1715	30.46	75.53	1575	6.71
2000	78.98	91.43	1580	6.90
3600	40.03	57.91	1585	7.18

CBP-1555C+
INSERTION LOSS (Full band)

CBP-1555C+
INSERTION LOSS (Pass band)

CBP-1555C+
VSWR

CBP-1555C+
GROUP DELAY
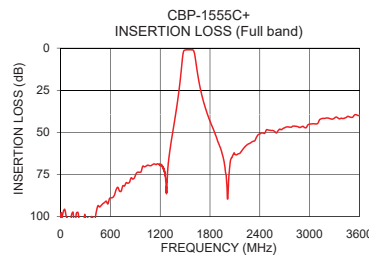
Notes
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B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp
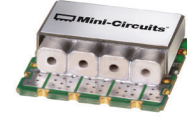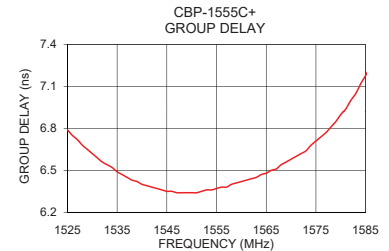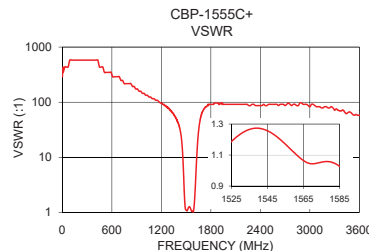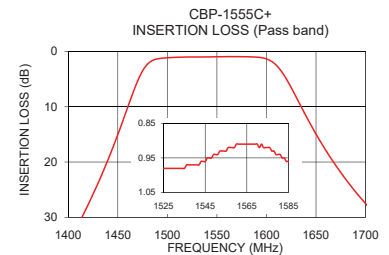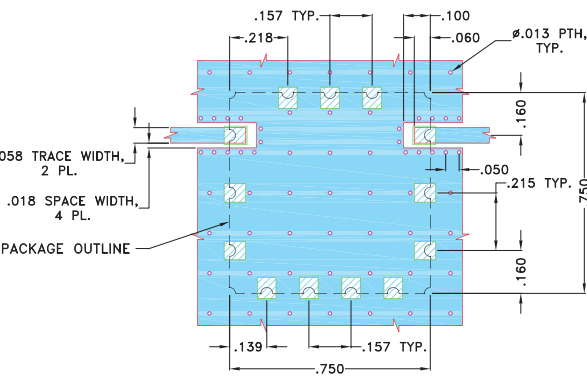
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Page 2 of 3

Pad Connections

INPUT	1
OUTPUT	10
GROUND	2,3,4,5,6,7,8,9,11,12,13

Demo Board MCL P/N: TB-684+
Suggested PCB Layout (PL-373)


NOTES:
1. TRACE WIDTH IS SHOWN FOR OAK (OAK—602) WITH DIELECTRIC THICKNESS .022"±.0015". COPPER: 1/2 OZ. EACH SIDE.
   FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
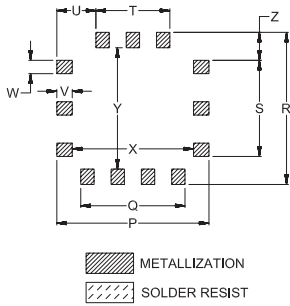2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC
(SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

Outline Drawing

PCB Land Pattern

METALLIZATION

SOLDER RESIST
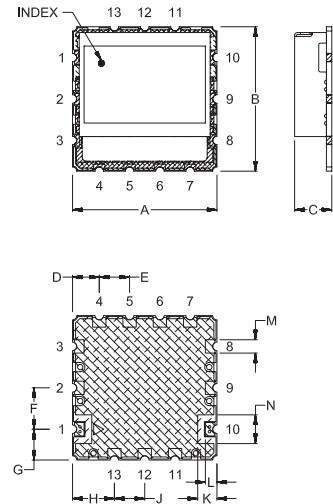
Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K	L	M	N
.750	.750	.210	.139	.157	.215	.160	.218	.157	.100	.060	.069	.149
19.05	19.05	5.33	3.53	3.99	5.46	4.06	5.54	3.99	2.54	1.52	1.75	3.78

P	Q	R	S	T	U	V	W	X	Y	Z		wt,
.790	.541	.790	.499	.384	.203	.080	.069	.630	.630	.145		grams
20.07	13.74	20.07	12.67	9.75	5.16	2.03	1.75	16.00	16.00	3.68		4.6

Note: Please refer to case style drawing for details.

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